(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 2003/104980 A3

(51) International Patent Classification⁷: G06F 9/445

(21) International Application Number:
PCT/IB2003/002581

(22) International Filing Date: 4 June 2003 (04.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0213218.1   8 June 2002 (08.06.2002)   GB

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and
(75) Inventor/Applicant (for US only): HOULDSWORTH, Richard, J. [GB/GB]; c/o Philips Intellectual Property

& Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).

(74) Agent: TURNER, Richard, C.; Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
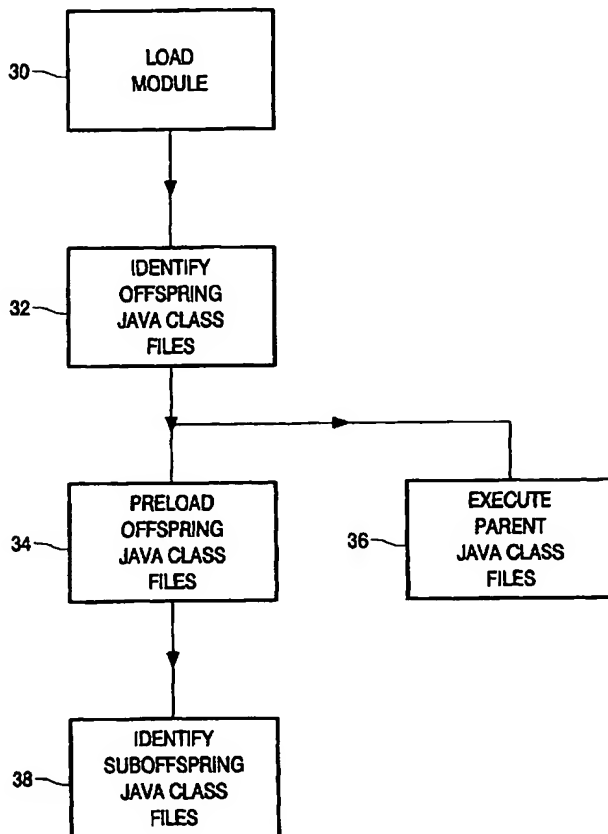
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: OPERATION OF A JAVA VIRTUAL MACHINE

(57) Abstract: A method for operating a JAVA virtual machine comprises loading a module comprising a parent JAVA class file, identifying offspring JAVA class files listed within the parent JAVA class file, and preloading the offspring JAVA class files. Apparatus arranged to carry out this method comprises receiving means for receiving a digital broadcast signal, and processing means for processing the signal, the processing means comprising a JAVA virtual machine.

WO 2003/104980 A3

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
2 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   G06F9/445

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7   G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 866 612 A (MATSUSHITA ELECTRONICS CORP) 23 September 1998 (1998-09-23)	1,2,4-11
A	abstract column 1, line 1 - column 21, line 43 column 27, line 34 - line 43 column 35, line 56 - column 36, line 32 column 38, line 28 - line 36 column 39, line 18 - line 50 column 44, line 28 - line 37 figure 4 figure 7 figure 8 figure 13	3

-/--

[X] Further documents are listed in the continuation of box C.   [X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 September 2004	29/09/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Kielhöfer, P

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/57634 A (JCP COMPUTER SERVICES LTD ; PATTERSON ANDREW JOHN (GB); BAND JAMIE ANG) 11 November 1999 (1999-11-11) abstract page 3, line 14 - line 25 page 11, line 26 - page 12, line 8 page 13, line 10 - line 27 page 16, line 11 - line 13 page 24, line 21 - page 25, line 7 page 31, line 16 - page 43, line 10 page 58, line 9 - page 59, line 1 page 65, line 5 - page 66, line 15 figure 2 figure 3 figure 4 figure 9 figure 11a figure 13 figure 17 figure 20 —————	1,2,5-11
X	GOSLING J ET AL: "THE JAVATM LANGUAGE SPECIFICATION" JAVA LANGUAGE SPECIFICATION, XX, XX, 1 August 1996 (1996-08-01), pages 215-236, XP002042923 page 215, line 4 - line 8 page 216, line 17 - page 217, line 20 page 218, line 10 - page 219, line 5 page 220, line 1 - line 19 —————	1,2,4-6
X	EP 0 823 798 A (THOMSON MULTIMEDIA SA) 11 February 1998 (1998-02-11)	7-9
A	page 2, line 37 - line 49 figure 1 —————	3
A	SEDLMEYER: "MULTIMEDIA HOME PLATFORM - STANDARD 1.0.1" October 2001 (2001-10), FERNSEH UND KINOTECHNIK, VDE VERLAG GMBH. BERLIN, DE, PAGE(S) 593-597,600 , XP001101096 ISSN: 0015-0142 the whole document —————	1-11

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 0866612	A	23-09-1998	DE	69726115 D1	18-12-2003
			DE	69726115 T2	22-04-2004
			EP	0866612 A1	23-09-1998
			US	6157948 A	05-12-2000
			CN	1208532 A	17-02-1999
			EP	1331560 A2	30-07-2003
			WO	9811723 A1	19-03-1998
WO 9957634	A	11-11-1999	AU	3722399 A	23-11-1999
			EP	0993631 A1	19-04-2000
			WO	9957634 A1	11-11-1999
EP 0823798	A	11-02-1998	FR	2752350 A1	13-02-1998
			CN	1175826 A	11-03-1998
			EP	0823798 A1	11-02-1998
			ID	18245 A	19-03-1998
			JP	10098508 A	14-04-1998
			US	2001052856 A1	20-12-2001